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ABSTRACT

In an attempt to provide a more useful and economical alternative to the traditional college catalog, St Louis Community College at Florissant Valley (SCC), in Missouri, has developed a hyptertext program. The hypertext format links pools of information that can be accessed at the rate and depth of detail that the end user desires. The hypertext catalog is organized into several levels. The first level is the introduction and main menu, which provide degree and certificate menus, a calendar, and academic policies. The second level of information provides more specific information, including lists of Associate in Arts programs alphabetically, academic events by semester, and admissions procedures. The next level provides a link between course listings and course descriptions, and a subsequent link leads to listings of course prerequisites. Finally, there is a glossary and help function, which provide definitions of college terms and detailed explanations of the keyboard command structure. Users may use the program's print command to print a paper copy of some portions of the catalog, such as the curriculum for a class or an application form. Responses by high school guidance counselors and library users to the catalog have been very positive and SCC has seen considerable savings over the printed version. (MAB)

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Reinventing the Community College Catalog

Using Hypertext for IBM

Paper presented at "Reinventing the Community College," the Annual Computer Conference of the League for Innovation in the Community College (10th, Nashvillle, TN, November 14-17, 1993).

by Charles B. Rock

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Reinventing the Community College Catalog Using Hypertext for IBM

by Charles B. Rock

A demonstration by Charles Rock and Herbert F. Niemeyer (both of the St. Louis Community College at Florissant Valley Media Services Department in St. Louis, Missouri) of a hypertext authoring application presented to the League for Innovation in the Community College Annual Conference in Nashville, Tennessee October, 1993.

What is Hypertext?

In a nutshell, the hypertext authoring program allows you to create links among related clusters of information. The information may be in all the forms that modern computers are designed to handle - text, graphics, sound, video.

A well-planned hypertext program actually promotes movement toward the information the user wishes to find and at the rate and level of detail that he or she desires. The capability for building links among data in ways that allow a user to employ intuition and association to move toward a learning goal produces applications that are particularly appropriate for the adult learner.

Converting print to binary digits does not automatically make information more useful or attractive. The computer disk is merely a storage option - like hundreds of words typed randomly on a page. If you were given instructions for reading those words in a certain order, you could construct meaningful phrases and sentences. Analogously, hypertext allows us to make sense of raw computerized data by forging connections among related items.

Designing a useful instructional program in hypertext is very much like designing any lesson plan for the adult classroom. The teacher must make a great deal of specialized knowledge accessible to an audience with a wide range of expectations, experiences, interests, and abilities. The lesson plan must be flexible enough to cope with questions, diversions, recapitulations, and so on.

The Catalog Project

Our media services department creates instructional materials for faculty in all the College's academic departments. These materials may include print, film, audio tape, video tape, and -

increasingly - computer software. Our department had been favorably impressed with hypertext's potential for instruction, so we sought a demonstration project.

The college catalog seemed an appropriate first example for several reasons. Hypertext works extremely well with large volumes of text and, of course, our College Printing Department has been producing the paper version of the catalog from computer disks for many years. Thus, the hard work - typing 1720 course descriptions - had already been done.

In addition, the catalog is a familiar, everyday sort of document; comparisons between the printed version and the hypertext version would be easy for the users to make.

The task of breaking the catalog into logical pools of related information and then arranging links between the pools must parallel the task of re-thinking the traditional printed format in order to better adapt the information to hypertext organization. This difficult process requires that you anticipate the needs of users you will never meet. What sort of arrangement will make the most sense to the most people?

The printed catalog's table of contents is a starting point. But remember, in a hypertext computer program, the list of Associate in Arts degrees doesn't begin on page 31, rather it resides at hyperjump MENU03 (or whatever categorization device you might choose). In hypertext authoring, you try to arrange information in levels of complexity, as well.

Thus, we developed the first two levels of the program:

Level 1: Introduction and Main Menu (Table of Contents)
Degree and Certificate Menus, Calendar, Academic policies, etc.

Level 2: Menus of Related-Information Pools
Alpha Listings of all Associate in Arts Programs, Academic Events by Semester, Admissions procedures, etc.

This is the beginning of a structure that directs the user through a series of choices that brings him or her closer to the desired information. Notice that Level 2 is more specific than Level 1; Level 2 offers an expansion of choices within the categories established in Level 1.

For example, if the user only desires to know what this piece of software (the Hypertext College Catalog) is about or how to move around within it, she need only view Level 1. If she would like to know whether or not the College offers a degree program in Civil Engineering, then she can move to the greater detail of Level 2.

Once the links among pools of related information were created and links formed, we tried to find ways in which hypertext could enhance, improve, or simplify our use of the catalog's voluminous information.

Each College academic program includes a list of the courses that must be taken in order to complete the requirements of that program. These required courses are identified by a discipline prefix, number, title, and credit value (e.g. BIO102 Clinical Physiology 3 Credits). The user of the printed catalog must turn to the back of the book and search - first alphabetically, then numerically - for a course description.

With hypertext, we were able to make each course prefix and number (e.g. BIO102) a hyperjump to its own description. Thus, the user can instantly see the catalog description for any course appearing anywhere in the catalog.

This represents the program's third level of detail:

Level 3: Course Description Pool.
Course descriptions for 1720 College courses.

Of course, once the user has jumped to a specific course description (BIO102), she may find that the course carries a prerequisite (BIO111). This prerequisite description, as well as any subsequent prerequisites, may be instantly accessed in the same way as the original course.

Incidentally, the hypertext authoring utilities may be used to check whether or not every hyperjump is valid. In other words, when an academic program of study lists a requirement for BIO102, the hypertext utilities will determine that a course description for BIO102 actually exists. We point this out because, as a by-product of running the hypertext utility, we found 52 references to non-existent (discontinued or typographically incorrect) course numbers in the printed version of the catalog.

Beneath the course descriptions, there is another level of information that serves as a catch-all:

Level 4: (Typically) Glossary and Help.
Helpful definitions of College terms (such as tuition, semester, credit hour, etc.) and detailed explanations of the keyboard command structure.

Our college catalog contains more than a list of programs and courses; it is the legal document of College academic policies and procedures. This information, too, is handled in levels of detail.

As one typical example, several admissions policies refer to State Graduation Requirements. The explanation of these requirements exists as a discrete file listed in the menu, of course, but it also may be accessed instantly from any point in the catalog. The State Requirements include a list of courses and users can jump instantly to their descriptions as before.

By the way, these levels of increasing detail can be extended to whatever your applications demand, but two limitations should apply. Don't force the user to go very far before finding the desired information and don't spend too much time breaking pools of information into smaller and smaller groups.

These levels are, of course, conceptual rather than physical. When you graphically describe a series of instructions for a computer, you create a flowchart that represents a sequence of actions. Some sequences are descriptions of general procedures while other sequences may describe very small and specific activities. In a similar vein, a teacher may organize a lesson plan that moves from the general to the specific using lots of illustrative examples along the way.

Advantages of a Hypertext College Catalog

We have distributed the hypertext catalog program to users as a compressed file on a single floppy disk. The catalog uncompresses itself during installation onto a hard drive and requires approximately 1.4 megabytes of space. The floppy disk is considerably less expensive to produce and mail than the printed version of the catalog.

More important, the hypertext catalog makes excellent application of existing authoring technology. Navigation through the catalog program is accomplished with the four arrow keys, no mouse is required. The ASCII text files may be created and amended with almost any word processor. Screen colors may be set by the user on any color monitor and the program runs extremely fast even on the older IBM-compatible computers. The user quickly comes to appreciate this speed of operation. Given a very short learning period, users can locate specific information much faster in the hypertext catalog than in the printed version. This is a particularly powerful feature for counselors and advisors - frequent users of the catalog.

By the way, for those occasions when users may desire a paper copy of some portion of the catalog, the program includes a print command. For example, the user may print out a hard copy of the specific curriculum in which she or he is interested and then print out an application form to mail to our Admissions Office.

The specific hypertext authoring program we chose for the catalog is called HyPlus. Certainly the price was right. Neil Larson, the program's creator, allows royalty-free distribution of HyPlus for personal, educational, and commercial uses. For an $89 registration fee, you will receive a manual, helpful utilities, and updates from Larson's company Maxthink/2425 B Channing #592/Berkeley, CA 94704.

Considerations

Learning to use the HyPlus authoring program and associated utilities is not difficult. The finished product has a non-threatening, "no-frills" appearance and users find it extremely simple to operate. While graphic and sound enhancements may be included in your hypertext creation, these files can be huge. There is also the problem of choosing a graphics display format. The catalog already requires 1.4 megabytes of memory - without any graphics files! We felt that we would serve more potential users by keeping the program's size and graphics format as non-limiting as possible.

Creating the initial hypertext version of a college catalog is time-consuming, but subsequent revisions should not be difficult. However, revisions to the hypertext version must parallel revisions to the printed catalog. Catalog decisions should also consider the requirements of computerization.

We have mailed the Hypertext Catalog to high school guidance counselors and libraries in our service area. Users have been very complimentary. The disk may be offered as an option to students in the future, but that was never really our purpose.

Our development of the hypertext catalog was intended to interest faculty in instructional uses for hypertext. This has begun to happen. Some instructors are using hypertext to organize class information so that users are directed toward specific objectives, while allowing for individual patterns of divergent and concurrent interests.

Given a particular subject to research, most of us would agree that plenty of information is available from a wide range of sources. But, mere existence is not sufficient. We truly need for information to be organized in such a way that we can easily find it and make use of it.

The tools for such organization now exist.